

REMARKS

In response to the Office Action dated April 25, 2006, Applicants respectfully request reconsideration. Claims 1-28 were previously pending in this application. Claim 28 has been amended. As a result, claims 1-28 are pending for examination with claims 1, 7, 11, 22, 24 and 28 being independent claims. No new matter has been added.

I. Objection to the Claims

On page 2, paragraph 1, the Office Action objected to claim 28 because of an informality, namely, a typographical error in the use of the word “in” within the phrase “data words in greater than a predetermined threshold.”

Claim 28 has been amended to change the word “in” to “is,” so as to correct this error. Accordingly, withdrawal of this objection is respectfully requested.

II. Claim Rejections Under 35 U.S.C. §103—Endoh in view of Lee and Epstein

The Office Action rejected claims 1, 5-11, 16-18, 20-24 and 26-28 (including independent claims 1, 7, 11, 22, 24 and 28) under 35 U.S.C. §103(a) as being allegedly obvious over Endoh et al. (U.S. Patent No. 5,602,789), Lee et al. (U.S. Patent No. 5,781,485) and Epstein (U.S. PGPub No. 200440139074). Applicants respectfully traverse these rejections.

As set forth in MPEP §2143, three criteria must be met in order to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the cited reference(s) or in the knowledge generally available to one of ordinary skill in the art, to modify the cited reference(s) or to combine reference teachings (if multiple references are cited). Second, there must be a reasonable expectation of success. The teaching or suggestion to modify the reference(s) or to combine reference teachings, as well as the reasonable expectation of success, must both be found in the prior art and not based on Applicants’ disclosure. Third, the prior art reference(s), when viewed as a whole, must teach or suggest all of the claimed features. Failure to meet any one of these criteria—a teaching or suggestion of all claim elements, a

specific suggestion or motivation to modify or combine the prior art, and a reasonable expectation of success—is sufficient to render an obviousness rejection improper.

As discussed below, *none* of these three criteria is met in the claim rejections over the combination of Endoh, Lee, and Epstein.

A. Independent Claim 1

Applicants' claim 1 is directed to a device for selecting an operating mode of an integrated circuit. The device comprises: (A) a ROM storing at least one predetermined value formed of data words; (B) a non-volatile programmable memory controllable to store said predetermined value; (C) a comparator indicating how many data words of the value stored in the programmable memory are identical to the data words of the predetermined value; and (D) control means deactivating a selection signal for selecting the operating mode when the number of identical words is greater than predetermined threshold.

1. The combination of Endoh, Lee, and Epstein does not teach or suggest all claim elements.

Features of claim 1 are not taught or suggested by any of Endoh, Lee, and Epstein. Accordingly, any combination of these references fails to disclose all elements of claim 1.

First, the combination does not teach or suggest both of the elements (A) and (B) recited in claim 1, namely, “a ROM storing at least one predetermined value formed of data words,” and “a non-volatile programmable memory controllable to store said predetermined value.” The Office Action asserts that both of these different elements of the claim are taught by a single device in Endoh, i.e., the NAND-type electrically erasable programmable read-only memory 10 of FIG. 1 of Endoh. In particular the Office Action contends that:

“Endoh discloses a device for selecting an operating mode of an integrated circuit, comprising: a ROM storing at least one predetermined value formed data words (electrically erasable programmable read-only memory, col. 9, lines 19-20; predetermined data is written to the memory, col. 5, lines 14-15); a non-volatile programmable memory controllable to store said predetermined value (programmable, non-volatile, multi-level memory system, col. 1, lines 23-24; predetermined data is written to the memory, col. 5, lines 14-15 ...)” (Office Action, page 3, paragraph 4).

Applicants respectfully disagree. The citations provided by the Office Action as indicated in the quoted passage above refer to the same NAND-type memory element in Endoh (note the citation to Endoh, col. 5, lines 14-15 for both elements). In contrast, the two elements (A) and (B) of claim 1 perform respective distinct functions, and it is improper to read both of these elements on the single NAND-type memory of Endoh (MPEP §2131). In view of the foregoing, Endoh fails to disclose or suggest both elements (A) and (B) of claim 1. Neither Lee nor Epstein cures this deficiency, as both of these references also fail to disclose or suggest the combination of elements (A) and (B) recited in claim 1.

Second, the combination of cited references does not teach or suggest “a comparator indicating how many data words of the value stored in the programmable memory are identical to the data words of the predetermined value” as recited in claim 1. The Office Action alleges that the comparator 32, shown in Fig. 1 of Endoh, teaches this limitation. Applicants respectfully disagree. Endoh’s comparator 32 does not compare data words, but instead operates to compare *voltage levels* between a selected bit line and a data latch circuit connected to a data input buffer (Endoh, col. 10, lines 40-46). There is no teaching or suggestion in Endoh, or any of the other cited references, that Endoh’s comparator for voltages on an individual bit-line may be construed as a comparator of data words. Accordingly, each of the cited references fails to disclose this additional element of claim 1.

In view of the foregoing, a first criterion for establishing a *prima facie* case of obviousness is not met. Thus, the rejection of claim 1 should be withdrawn.

2. There is no suggestion or motivation to combine Endoh, Lee, and Epstein.

In addition to the cited references, alone or in combination, failing to disclose or suggest all elements of claim 1, there is further no motivation to combine the references.

The Office Action alleges that a person of ordinary skill in the art would have been motivated to modify the memory unit of Endoh with the apparatus for controlling an operating mode of Lee and the data-processing circuit of Epstein. Applicants respectfully disagree that a person of ordinary skill in the art would have been so motivated.

The Examiner posits that a person of ordinary skill in the art of memory control would have been motivated to combine the deactivating selection signal for selecting an operating

mode, allegedly of Lee, with the predetermined threshold of Epstein. Applicants respectfully disagree. Lee teaches using a distinct eight-bit command interpreted by a command decoder to signal that the test mode of the semiconductor device should be permanently disabled (Lee, col. 4, lines 8-23). Since there is no ambiguity concerning the test mode release signal in Lee, there would not be any need for comparison against a threshold value. Hence, for at least this reason, one of ordinary skill in the art would not be motivated to look to Epstein for any modification to Lee involving a predetermined threshold in connection with Lee's test mode release signal.

Perhaps most notably, the Office Action completely fails to substantiate why a person would be motivated to combine Endoh with either of the Lee and Epstein references. Specifically, the Office Action does not point to any support for the conclusion that it would be desirable to combine the deactivating selection signal for selecting an operating mode (allegedly of Lee) and the predetermined threshold (of Epstein) with any of the teachings of Endoh. Rather, the Office Action merely contends that some of the teachings of Lee and Epstein allegedly are combinable (which they are not), but the Office Action fails to provide any indication of why one of ordinary skill in the art would then further combine any combined teachings of Lee and Epstein with those of Endoh.

For at least the foregoing reasons, there is no suggestion or motivation to combine Endoh, Lee, and Epstein. Accordingly, a second criterion for establishing a *prima facie* case of obviousness has therefore not been met by the Office Action.

3. There is no reasonable expectation of success.

The Office Action fails to specify any indication, either in the references themselves or in the knowledge generally available in the art, of a reasonable expectation of success in combining Endoh, Lee, and Epstein. Most notably, the Office Action completely fails to specify or suggest in any manner *how* one of ordinary skill in the art would practically and realistically combine various elements of Endoh, Lee, and Epstein to successfully arrive at an apparatus or method that would resemble the subject matter of any of Applicants' claims, including independent claim 1.

It is noteworthy that the Office Action fails to provide any methodology for practically and realistically applying any features of Lee or Epstein to modify Endoh, nor does the Office

Action provide any example of a reasonable expectation of success in making any such modification. Instead, the Office Action merely provides a general assertion of an alleged motivation to combine the references, without any specific support or discussion of a reasonable expectation of success in combining the references.

In view of the foregoing, it is entirely unclear from the Endoh, Lee, and Epstein references how the different elements of these references would realistically be combined to provide a viable functioning device, and certainly not any device that could render claim 1 obvious. Not only do the references, when viewed as a whole, fail to provide any such teaching, suggestion, or motivation, but furthermore the Office Action provides no insight as to how to practically and successfully implement such a combination.

4. For each of the three reasons set forth above, no *prima facie* case of obvious has been established.

In view of the foregoing, Endoh, Lee, and Epstein, either alone or in combination, fail to disclose or suggest all of the features of claim 1. In addition, there is no suggestion or motivation to combine Endoh, Lee, and Epstein, and no reasonable expectation of success. Accordingly, claim 1 patentably distinguishes over the combination of Endoh, Lee, and Epstein and is in condition for allowance. Therefore, the rejection of the claim should be withdrawn.

Claims 2-6 depend from claim 1 and are allowable based at least upon their dependency.

B. Independent Claim 7

Applicants' claim 7 is directed to a method for selecting an operating mode of an integrated circuit between a reserved mode and a user mode. The method comprises: (A) determining how many data words of a value stored in a non-volatile programmable memory of the circuit are identical to data words of at least one predetermined value stored in a ROM of the circuit; and (B) selecting the user mode when the number of identical words is greater than a predetermined threshold.

Similarly to claim 1, claim 7 recites both a ROM in which is stored data words of at least one predetermined value, and a non-volatile programmable memory, as different elements of step (A). Accordingly, for reasons similar to those discussed above in claim 1, claim 7 patentably distinguishes over the combination of Endoh, Lee, and Epstein and is in condition for allowance. Therefore the rejection of this claim should be withdrawn.

Claims 8-10 depend from claim 7 and are allowable based at least upon their dependency.

C. Independent Claim 11

Applicants' claim 11 is directed to a device for selecting an operating mode of an integrated circuit. The device comprises: (A) a read-only memory configured to store at least one predetermined value including data words; (B) a non-volatile programmable memory configured to store the predetermined value in response to a control signal; (C) a comparator configured to indicate a number of data words in the programmable memory that are identical to the data words of the predetermined value; and (D) a control circuit configured to deactivate a mode select signal when the number of identical words indicated by the comparator is greater than a predetermined threshold.

Similarly to claim 1, claim 11 recites a read-only memory (ROM) in (A) and a non-volatile programmable memory in (B). Accordingly, for reasons similar to those discussed above in claim 1, claim 11 patentably distinguishes over the combination of Endoh, Lee, and Epstein and is in condition for allowance. Therefore the rejection of this claim should be withdrawn.

Claims 12-21 depend from claim 11 and are allowable based at least upon their dependency.

D. Independent Claim 22

Applicants' claim 22 is directed to an integrated circuit. The integrated circuit comprises: (A) a mode select device for selecting an operating mode of the integrated circuit, comprising: (i) a read-only memory configured to store at least one predetermined value including data words; (ii) a non-volatile programmable memory configured to store the predetermined value in response to a control signal; (iii) a comparator configured to indicate a number of data words in the programmable memory that are identical to the data words of the predetermined value; and

(iv) a control circuit configured to deactivate a mode select signal when the number of identical words indicated by the comparator is greater than a predetermined threshold. The integrated circuit further comprises: (B) a functional block for providing the control signal to the mode select device and configured to operate in different operating modes according to a state of the mode select signal.

Similarly to claim 1, claim 22 recites a ROM in (A.i), a non-volatile programmable memory in (A.ii), and a comparator for comparing data words in (A.iii). Accordingly, for reasons similar to those discussed above in claim 1, claim 22 patentably distinguishes over the combination of Endoh, Lee, and Epstein and is in condition for allowance. Therefore the rejection of this claim should be withdrawn.

Claim 23 depends from claim 22 and is allowable based at least upon its dependency.

E. Independent Claim 24

Applicants' claim 24 is directed to a method for selecting an operating mode of an integrated circuit. The method comprises: (A) storing in a read-only memory at least one predetermined value of data words; (B) storing the predetermined value in a non-volatile programmable memory in response to a control signal; (C) determining a number of data words in the programmable memory that are identical to the data words of the predetermined value; and (D) deactivating a mode select signal when the determined number of identical data words is greater than a predetermined threshold.

Similarly to claim 1, claim 24 recites a ROM in (A) and a non-volatile programmable memory in (B). Accordingly, for reasons similar to those discussed above in claim 1, claim 24 patentably distinguishes over the combination of Endoh, Lee, and Epstein and is in condition for allowance. Therefore the rejection of this claim should be withdrawn.

Claims 25-27 depend from claim 24 and are allowable based at least upon their dependency.

F. Independent Claim 28

Applicants' claim 28 is directed to a device for selecting an operating mode of an integrated circuit. The device comprises: (A) a read-only memory storing at least one

predetermined value of data words; (B) a non-volatile programmable memory storing the predetermined value in response to a control signal; (C) means for determining a number of data words in the programmable memory that are identical to the data words of the predetermined value; and (D) means for deactivating a mode select signal when the determined number of identical data words is greater than a predetermined threshold.

Similarly to claim 1, claim 28 recites a ROM in (A) and a non-volatile programmable memory in B. Accordingly, for reasons similar to those discussed above in claim 1, claim 28 patentably distinguishes over the combination of Endoh, Lee, and Epstein and is in condition for allowance. Therefore the rejection of this claim should be withdrawn.

III. General Comments on Dependent Claims

Since each of the dependent claims depends from a base claim that is believed to be in condition for allowance, Applicants believe that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. However, Applicants do not necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor do Applicants concur that the basis for the rejection of any of the dependent claims is proper. Therefore, Applicants reserve the right to specifically address the patentability of the dependent claims in the future, if deemed necessary.

CONCLUSION

It is respectfully believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment set forth in the Office Action does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Furthermore, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify any concession of unpatentability of the claim prior to its amendment.

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' representative at the telephone number indicated below to discuss any outstanding issues relating to the allowability of the application.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

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